

III. AMENDMENTS TO THE CLAIMS

MARKED VERSION OF CLAIMS WITH PRESENT STATUS DELINEATED

- THE CLAIMS ARE HEREIN AMENDED, CANCELLED, OR ADDED TO, SO AS TO EVENTUATE IN THE NEW SET OF PENDING CLAIMS INDICATED BELOW. THIS LISTING OF CLAIMS WILL REPLACE ALL PRIOR VERSIONS AND LISTING OF CLAIMS IN THE APPLICATION.

-- The status of each claim is indicated after the claim number by use of a parenthetical identifier selected from: (Original), (Currently amended), (Canceled), (Withdrawn), (Withdrawn – currently amended), (Previously presented), (New), and (Not entered). Claim text is provided for each claim in the listing except for the claims status “canceled” or “not entered.” Only claims having the status of “Currently amended” or “Withdrawn – currently amended” include markings to indicate changes that have been made relative to the immediate prior version of the claims. The text of any deleted matter is shown by strike-through, except that double brackets, placed before and after deleted characters of five or fewer consecutive characters, may be used. The text of any added subject matter is shown by underlining the added text. Claims that were previously canceled that are reinstated here, if any, are reinstated by adding the claim as a “(New)” claim with a new claim number.

WHAT IS CLAIMED IS:

We claim:

1 1. (Currently amended) A method for fabricating an optical medium
2 readable by an optical reader, said method comprising the steps of:

3 (a) molding a substrate so as to have a first major surface with
4 information pits and information lands thereon and a second major surface that
5 is relatively planar;

6 (b) applying ~~a transient~~ an optical state change security material
7 capable of converting from a first optical state to a second optical state upon
8 exposure to the laser of said optical reader to at least a position of said first
9 major surface;

10 (c) applying a reflective material over the first major surface so as to
11 cover said information pits and information lands;

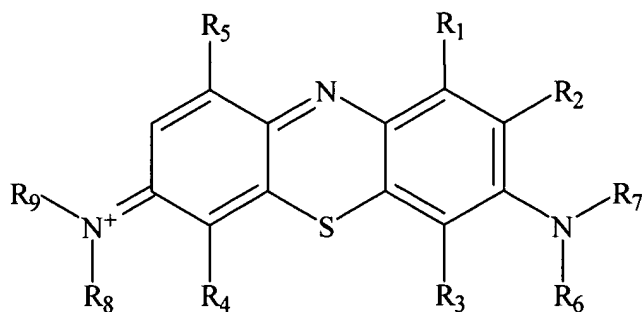
12 wherein the ~~transient~~ optical state change security material comprises [7-
13 (dipropylamino)phenothiazin-3-ylidene]dipropylamine.

1 2. (Canceled)

1 3. (Canceled)

1 4. (Currently amended) A composition affixed to an optical recording
2 medium, the composition comprising:

3 ~~a transient~~ an optical state change security material capable of
4 existing in a first unactivated state and a second activated state ~~on said first~~
5 ~~or second major surface~~, said ~~transient~~ optical state security material
6 comprising a compound of formula I:

X⁻

I.

where R₆, R₇, R₈, and R₉ are ~~alkylamino~~ alkyl and R₁, R₂, R₃, R₄ and R₅ are selected from the group consisting of hydrogen, alkyl, aryl, alkoxy, thioalkoxy, alkylamino, nitro, amino and halogen, but the formula does not represent methylene blue; and X is selected from the group consisting of Cl, Br, I, ~~Chlorate, Mesylate, Tosylate,~~ chlorate, mesylate, tosylate, triflate, ethoxylate, methoxylate and any other anion, and

an electron transfer agent positioned with respect to said optical state change security material, and of such a quantity, to be capable of donating electrons to said optical state change material when it is in its first unactivated state and impinged with a wavelength of from about 630 nm to about 660 nm to aid conversion from said first unactivated state to said second activated state.

5. (Original) The composition of claim 4 wherein the compound of formula I is [7-(dipropylamino)phenothiazin-3-ylidene]dipropyl-amine.

6. (Currently amended) The composition of claim 4 wherein the electron transfer agent is selected from the group consisting of: triethanol amine, diethanol amine, trimethylglycine (TMG), dimethylaminoethanol (DMEA), diethylmethyamionethanol (DEMEA), tetramethylethylenediamine (TMED), ethylenediamine tetracetic acid (EDTA), Bis(2-hydroxyethyl)iminotris(hydroxymethyl)methane (Bis-Tris), p-tolylimido diethanol, N-tert-butyl diethanol amine, 4-morpholine ethanol,

8 1,4-bis-2-hydroxyethyl piperazine, bicine, N,N-Bis(2-hydroxyethyl)-2-
 9 aminoethanesulfonic acid (BES), 3-Pyrrolidino-1,2-propanediol, 1-Amino-
 10 3,3-diethoxypropane, (S)-3-tert-Butylamino-1,2-propanediol, DL-
 11 Isoproterenol sulfate dihydrate, N,N-Bis(2-hydroxyethyl)-3-methoxyaniline,
 12 1,1'-[[3-(Dimethylamino)propyl] imino]bis-2-propanol, Triethanolamine
 13 Ethoxylate, 2,2'-(4-Methylphenylimino)diethanol, Triisopropanolamine, 2-
 14 [[2-[2-(dimethylamino)ethoxy]ethyl]methylamino] ethanol, Triethanolamine
 15 Hydrochloride, N-phenyldiethanolamine, 1-[N,N-Bis(2-hydroxyethyl)
 16 amino]-2-propanol, N-t-Butyldiethanolamine, N-Butyldiethanolamine , 3-
 17 Morpholino-1,2-propanediol, N,N-Bis(2-hydroxyethyl)ethylenediamine, 3-
 18 (Diethylamino)-1,2-propane -diol, 4-(3-hydroxypropyl)morpholine, N-
 19 Ethyldiethanolamine, 4-(2-Hydroxyethyl) -morpholine, N-
 20 Methyl-diethanolamine, 3-morphonlino-1,2-propanediol, 3-diisopropyl -
 21 amino-1,2-propanediol, 3-(dimethylamino)-1,2-propanediol, 3-piperidino-
 22 1,2-propanediol, 3-(diethylamino)-1,2-propanediol, dropropizine.

1 7. (Original) The composition of claim 6 wherein the compound of
 2 formula I is [7-(dipropylamino)phenothiazin-3-ylidene]dipropyl-amine.

1 8. (Original) The composition of claim 4 further comprising a polymer.

1 9. (Currently amended) The composition of claim 8 wherein the
 2 polymer is selected from the group consisting of: polyHEMA
 3 (polyhydroxyethylmethacrylate) and hydrolysed PVA (hydrolyzed polyvinyl
 4 alcohol).

1 10. (Original) The composition of claim 4 wherein the electron transfer
 2 agent is chemically linked to a polymeric structure.

1 11. (Original) The composition of claim 10 wherein the electron transfer
 2 agent-polymer has a molecular weight in the range of about 50 – 100 KD.

1 12. (Original) The composition of claim 11 wherein the electron transfer
 2 agent-polymer is soluble in methoxy propanol.

1 13. (Original) The composition of claim 10 wherein the electron transfer
2 agent is chemically linked to the polymer via a bis(2-hydroxyethyl) amino
3 functionality.

1 14. (Currently amended) An optical medium comprising the compound
2 [7-(dipropylamino)phenothiazin-3-ylidene]dipropyl-amine wherein the
3 compound when applied to the optical medium ~~[[it]]~~ is detectable on said
4 optical medium by an optical reader producing a wavelength of from about
5 630 nm to about 660 nm ~~by a transient change~~ after a change in optical state
6 from an initial optical state to a second optical state.

1 15. (Original) The optical medium of claim 14 wherein the compound is
2 associated with an optical data deformation in a manner such that the read of
3 the optical data deformation is different when the compound is in its initial
4 optical state and its second optical state.

1 16. (Currently amended) A method for authenticating an optical medium
2 having a number of data deformations thereon, said method comprising the
3 steps of:

4 (1) providing for a complementary data state onto a portion of said
5 optical medium;

6 (2) detecting said complementary data state on said portion of said
7 optical medium;

8 (3) authenticating said optical medium upon detection of said
9 complementary data state on said portion of said optical medium;

10 wherein the complementary data state is produced using ~~a transient~~ an
11 optical state security material comprising [7-(dipropylamino)phenothiazin-
12 3-ylidene]dipropyl-amine.

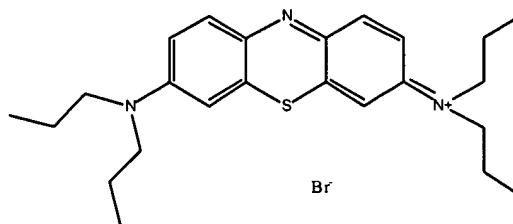
1 17. (Original) The method of claim 16 wherein said complementary data
2 state entails a change from one valid data state to a different valid data state.

1 18. (Original) The method of claim 16 wherein said complementary data
2 state entails a change from one erroneous data state to a different erroneous
3 data state.

1 19. (Original) The method of claim 16 wherein said complementary data
2 state entails a change from a valid data state to an erroneous data state.

1 20. (Original) The method of claim 16 wherein said complementary data
2 state entails a change from an erroneous data state to a valid data state.

1 21. (Original) An optical disc comprising a compound of formula:



2

3

4 or other salt thereof.

22. (Currently amended) An optical disc comprising a composition having:

an electron transfer agent; and

~~a dye capable of being reduced by said electron transfer agent and activated~~
activatable by a wavelength of between about 630 nm to about 660 nm to convert
 from one optical state to a second optical state in an polymeric optical coating of the
optical disc, said conversion to said second optical state being aided by said electron
transfer from said electron transfer agent, and said second optical state converting
back to said first optical state upon loss of electrons..

23. (Currently amended) The optical disc of claim 22 wherein the electron transfer agent is selected from the group consisting of: triethanol amine, diethanol amine, trimethylglycine (TMG), dimethylaminoethanol (DMEA), diethylmethyamionethanol (DEMEA), tetramethylethylenediamine (TMED), ethylenediamine tetracetic acid (EDTA), Bis(2-hydroxyethyl)iminotris(hydroxymethyl)methane (Bis-Tris), p-tolylimido diethanol, N-tert-butyldiethanol amine, 4-morpholine ethanol, 1,4-bis-2-hydroxyethyl piperazine, bicine, N,N-Bis(2-hydroxyethyl)-2-aminoethanesulfonic acid (BES), 3-Pyrrolidino-1,2-propanediol, 1-Amino-3,3-diethoxypropane, (S)-3-tert-Butylamino-1,2-propanediol, DL-Isoproterenol sulfate dihydrate, N,N-Bis(2-hydroxyethyl)-3-methoxyaniline, 1,1'-[[3-(Dimethylamino)propyl] imino]bis-2-propanol, Triethanolamine Ethoxylate, 2,2'-(4-Methylphenylimino)diethanol, Triisopropanolamine, 2-[[2-[2-(dimethylamino)ethoxy]ethyl]methylamino] ethanol, Triethanolamine Hydrochloride, N-phenyldiethanolamine, 1-[N,N-Bis(2-hydroxyethyl) amino]-2-propanol, N-t-Butyldiethanolamine, N-Butyldiethanolamine, 3-Morpholino-1,2-propanediol, N,N-Bis(2-hydroxyethyl)ethylenediamine, 3-(Diethylamino)-1,2-propane -diol, 4-(3-hydroxypropyl)morpholine, N-Ethyldiethanolamine, 4-(2-Hydroxyethyl) -morpholine, N-Methyldiethanolamine, 3-morphonlino-1,2-propanediol, 3-diisopropyl -amino-1,2-propanediol, 3-(dimethylamino)-1,2-propanediol, 3-piperidino-1,2-propanediol, 3-(diethylamino)-1,2-propanediol, dropropizine.

24. (Original) The optical disc of claim 22 wherein the molecules of said dye of said composition do not substantially aggregate together.